Questioned Documents

Forensic Science
Counterfeit
Counterfeiting

• **What is *counterfeiting*?**
  – When false documents are created or other items copied for the purpose of deception

• **What are items that can be counterfeited?**
  – Travelers checks, certain bonds, currency, coins, food stamps, postage stamps, paper money, passports, driver’s licenses, social security cards, birth certificates, etc.
Counterfeit

• Made in exact imitation of something important or valuable with the intention of deceit

• Columbia is the leading manufacturer of counterfeit U.S. currency
  – This counterfeit production supports their growing drug cartel
Counterfeiting Facts

• Counterfeiting money is one of the oldest crimes.

• Counterfeiting in the U.S. is a federal felony punishable with up to 15 years in prison.

• The U.S. secret service is the federal agency in charge of investigating counterfeit U.S. currency.
Counterfeit Currency

• Under US law, counterfeiting is a federal felony punishable with up to 15 years in prison

• The US Secret Service is in charge of investigating counterfeit US currency

• The government continues to change the designs of paper money to make it harder to copy
  – $20: October 2003
  – $50: September 2004
  – $10: March 2006
  – $5: March 2008
  – $100: October 2013
Counterfeit Currency

The U.S. Bureau of Engraving and Printing has established some anti-counterfeiting security features including:

- Watermarks (little face)
- Color-shifting inks
- Fine-line printing and micro-printing
- Enlarged, off-center portraits
- Denomination-specific security thread
- Embedded red and blue fibers
Counterfeiting Currency: Interesting Facts

• U.S. law enforcement agencies forecast that companies lose approximately $400 billion to $450 billion annually to counterfeiterers.

• In 2004, a woman tried to buy more than $1,000 worth of items at Wal-Mart using a fake $1 million bill. The U.S. treasury does not make a $1 million bill so she was sent to jail.
Counterfeiting Currency

• In the past counterfeiting currency was easier with a good scanner and colored printer. Now it is more difficult to counterfeit bills.
For some reason, Carl Jones was to fail in his career as an international counterfeiter.
Detecting Counterfeit Bills

- Counterfeiting pens use **iodine** to detect the starch in counterfeit paper bills
- There are other criteria for judging counterfeit U.S. bills
- There is a push to eventually go to polymer money (**plastic**) which is more difficult to counterfeit and cheaper to print.
Features Found in Real Currency

- There are very specific features that all currency possesses in order to reduce counterfeiting and check for the authentication of bills
1. **Watermark** that is part of the paper itself and visible from both sides when the note is held up to a light. On the $10, $20 and $50 notes it is a faint image of the larger portrait. The $5 note features two watermarks.
• **Security Thread** embedded in the paper that runs vertically (in a unique position on each denomination) and glows when exposed to ultraviolet light in a dark environment.
3.

- **Color-Shifting Ink** in the numeral on the lower right corner of the note front. The color changes from copper to green when the note is tilted.
4.

- **Intaglio “raised” printing** gives the surface of the note a slightly raised feel, while the reverse feels slightly indented. This is typically used on the portrait, numerals and engravings.
5. **microprinting** is very small text that is hard to duplicate due to its size. For example, the $5 note features microprinting on the face of the note in three areas:

- The words “____ FIVE DOLLARS ____” can be found repeated inside the left and right borders of the note.
- The words “_ E PLURIBUS UNUM ___” (meaning “out of many, one”) appear at the top of the shield within the Great Seal.
- The word “USA” is repeated in between the columns of the shield.
6.

- Concentric, **Fine-Line Printing** is found on most notes in the background of the portrait and on the back of the note.
Detecting Counterfeit Currency

• Because real money is printed on special paper, the wrong “feel” is usually the first clue that a bill is a fake.

• **Counterfeit detection pen:** contains iodine and will react differently to different papers.

• The world may eventually move to polymer money (plastic) as it’s more difficult to counterfeit and cheaper to print.